

NEW SPECIES OF HYMENOPTERA OF THE SUPER-FAMILY SPHECOIDEA

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It has been the privilege of the writer during the past few months to work over the material of the superfamily Sphecoidea in the entomological collection of the University of Nebraska. Since the publication of "The Sphegoidea of Nebraska"¹ by H. S. Smith in 1908, a great deal of new material has been added to the University collection. A number of new species were found in this material as well as a great many forms new to the state list. It is the purpose of this paper to present the descriptions of the new species and some notes concerning the more important forms. Additional notes and a complete list of the Nebraska Sphecoidea will appear in a future paper now in course of preparation. The writer also received a number of specimens from Mr. O. A. Stevens of the North Dakota Agricultural College and the new species in that material are included in the present paper. The nomenclature of the thoracic sclerites used herein is that of Mr. Robert E. Snodgrass.² A binocular microscope was used in identifying all specimens and in interpreting the characters used in the descriptions. The types of all the species described herewith are in the entomological collection of the University of Nebraska, and paratypes, so far as possible, have been deposited in the collection of the American Entomological Society.

¹ University of Nebraska Studies, viii, pp. 323-410, October 1908.

² Proceedings of the United States National Museum, xxxix, pp. 37-91.

Family NYSSONIDAE

Subfamily ASTATINAE

***Brachystegus maculipes* sp. nov.**

♀. Length 4 to 5 mm. Head black, front finely and closely punctured, sparsely covered with short silvery pubescence, clypeus with pubescence somewhat longer; mandibles rufous, black at base; antennae black. Thorax entirely black, sparsely covered with short silvery pubescence; mesoscutum finely punctured medially, more coarsely so toward the sides; episterna and mesoscutellum finely reticulate; upper surface and sides of propodeum coarsely reticulate. Abdomen entirely black, sparsely covered with silvery pubescence; abdominal tergites one to four with a small whitish spot laterally; abdomen dorsally, finely and closely punctured, ventrally with the punctures more sparse and interspersed with a few coarse ones; pygidium a little longer than wide, margined laterally. Legs black; front tibiae and tarsi somewhat rufous; front and median femora with an elongated whitish spot at the tips.

♂. Unknown.

Type, a female taken at Omaha, Nebraska, June 26, 1914, (L. T. Williams). Three paratypes, Omaha, Nebraska, June 15, one female; and June 26, two females, (L. T. Williams).

Similar to *opulentus* but differs in being entirely black except abdominal markings and in its much smaller size.

***Brachystegus trichrus* sp. nov.**

♀. Length 3 to 4 mm. Head black; front finely and closely punctured, sparsely covered with silvery pubescence; apex of clypeus sparsely punctured, without pubescence; mandibles rufous; antennae black. Thorax black, sparsely covered with short silvery pubescence; mesoscutum and mesoscutellum finely punctured; a longitudinal median furrow on the anterior portion of the mesoscutum; episterna more coarsely punctured than the mesoscutum and with more dense pubescence; propodeum finely reticulate with a dense spot of silvery pubescence on each side near the spine; sides of propodeum finely punctured; posterior lobes of pronotum white. Abdomen rufous; last four abdominal tergites black; each tergite with an apical silvery fascia; first two abdominal tergites with a whitish spot on each side posteriorly; pygidium a little longer than wide. Front legs more or less rufous; middle and posterior legs black.

♂. Unknown.

Type, a female taken at Omaha, Nebraska, August 18, 1914, (L. T. Williams); paratype, Omaha, Nebraska, July 5, 1913, (L. T. Williams)

Similar to *basilaris* but differs in being more finely punctured, smaller in size, and in the abdominal markings.

Hoplisus rufocaudatus sp. nov.

♂. Length 10 to 11 mm. Black with red and yellow markings. Head black; covered with a sparse silvery pile; eyes converging below; space between the eyes at the base of the antennae equal to about twice the median length of the clypeus; front and vertex impunctate; ocelli situated on a slight prominence, the distance between the posterior ones greater than the distance between the lateral ocelli and the nearest eye margin; clypeus, labrum, mandibles except the tips and front except the median third, yellow; median third of front, vertex and cheeks black; scape beneath rufous, flagellum beneath piceous, scape and flagellum above black; flagellar joints one to seven strongly rounded out beneath, eight to ten slightly spinose, and joints eight to eleven somewhat lengthened. Thorax black, covered with a sparse silvery pile; mesoscutum impunctate, episterna and sides of propodeum with large, sparse, shallow punctures; suture between mesoscutum and mesoscutellum foveolate; enclosed space of propodeum longitudinally striate at the base; pronotum, posterior lobes of pronotum, spot beneath tegulae, large spot on anterior portion of episterna, and mesoscutellum, yellow; tegulae, a small spot on each side of mesoscutum near the tegulae, and a large spot on each side of the propodeum rufo-testaceous. Abdomen black, covered with a sparse silvery pile; first tergite impunctate, remaining tergites with large, sparse, rather deep punctures; sternites glabrous; first abdominal tergite with a broad yellow fascia posteriorly which is deeply emarginate medially; second and third abdominal tergites with a broad yellow fascia posteriorly, although the second is broader than the third, and both are dilated laterally; fourth abdominal tergite with a posterior, narrow yellow fascia; second and third sternites with a narrow, posterior yellow fascia which is almost interrupted medially and much dilated laterally; first tergite medially and the sixth and seventh abdominal segments entirely, rufo-testaceous. Anterior, intermediate and posterior legs entirely rufo-testaceous except the front and intermediate coxae, which have a yellow spot anteriorly. Wings hyaline, somewhat yellowish basally, with the usual fuscous cloud; stigma yellowish; cubital cell in hind wings terminating a very little beyond the origin of the cubital nervure, almost interstitial.

♀. Unknown.

Type, a male taken at Mitchell, Nebraska, August 12, 1915, (E. M. Partridge).

Runs in Fox's table to *decorus* from which it differs in having the propodeum punctured, in the enclosure of the propodeum being striated only at the base, in the yellow of the interior orbits, in the number of fasciae on the abdomen, and in the sixth and seventh abdominal segments being entirely rufo-testaceous; by which latter character it is easily distinguished.

***Pseudoplisus infumatus* sp. nov.**

1908. *Pseudoplisus smithii* H. S. Smith, Univ. Nebr. Studies, viii, p. 350, (nec Cresson).

1908. *Pseudoplisus floridanus* H. S. Smith, Univ. Nebr. Studies, viii, p. 350, (nec Fox).

♂. Length 14 to 16 mm. Black with red and yellow markings. Head black, very sparsely covered with golden pubescence; eyes distinctly converging below; front and clypeus sparsely punctate; clypeus convex; apex of clypeus slightly ferruginous; mandibles except the tips, labrum and inner eye margins, yellow; scape and base of flagellum rufous; remainder of flagellum black. Thorax impunctate, covered with very sparse golden pubescence; mesosternum distinctly carinate; suture between mesoscutum and mesoscutellum foveolate; enclosure of propodeum well defined by foveolate sutures, and divided by a longitudinal, foveolate suture; line on pronotum, posterior lobes of pronotum, tegulae and a narrow line on the metanotum fulvous; a wide fascia on the mesoscutellum yellow; two longitudinal lines on the mesoscutum and a spot on each side of the propodeum obscure ferruginous. Abdomen subpetiolate; piceous black; first two tergites impunctate, remainder of abdomen dorsally and ventrally sparsely punctate; covered with fine, sparse, golden pubescence; first tergite, except extreme base, entirely yellow and a narrow apical fascia on the second tergite yellow. Coxae black, trochanters and femora blackish above, rufous below; tibiae and tarsi rufous. Wings entirely fuliginous, stigma testaceous; cubital cell in hind wings terminating far beyond the origin of the cubital vein; second recurrent nervure in front wings not interstitial, originating before the second transverse cubital vein.

♀. Unknown.

Type, a male taken at Haigler, Nebraska, August 19, 1909, (C. H. Gable). Two paratypes taken at West Point, Nebraska, June 1887. One of these differs from the type in having a narrow yellow fascia on the third, fourth and fifth abdominal tergites, and in having the fascia on the second tergite very broad, covering almost all of the apical half of the segment.

Related to *bipartitus* from which it is easily distinguished by the large size, by the yellow of first tergite of the abdomen and by the uniform dark coloration of the wings.

***Mellinogastra williamsi* sp. nov.**

♂. Length 8 mm. Head black; eyes parallel, not converging or diverging towards the clypeus; front very finely and closely punctate, appearing granulate; vertex and cheeks finely but more sparsely punctured; clypeus slightly convex; clypeus and lower half of front covered with silvery pubescence; antennae long, slender; mandibles except the tips, labrum, clypeus except two small basal spots and a narrow apical margin, inner eye margins, spot between the antennae, scape and pedicellum beneath, yellow; flagellum beneath testaceous. Thorax black, finely punctured, with sparse, silvery pubescence; mesosternum carinated anteriorly but episternum and epimeron

of mesothorax not separated; a crenulate furrow between the mesoseutum and mesoscutellum; enclosure of propodeum distinct, with a median longitudinal furrow and striated on the basal two-thirds; broad line on the prothorax, posterior lobes of pronotum, spot on the episterna above and a broad fascia on the mesoscutellum, yellow. Abdomen black, apical segments with a very fine, sparse pile; very finely punctate interspersed with a few large punctures, except on the second sternite where the large punctures are quite numerous and deep; first segment coarctate; last sternite with four short, yellowish bristles at the apex; apical fascia on the first tergite dilated at the sides, oblique lateral spot on the second tergite, narrow apical fasciae on the third and fourth tergites, wide apical fascia on the second sternite narrowly interrupted in the middle and emarginate at the sides, and a narrow apical fascia on the third sternite widely interrupted in the middle, all yellow. Coxae, trochanters, femora and tibiae of front and middle legs yellow beneath, black above; hind legs black, coxae with a yellow apical spot beneath, and trochanters, femora and tarsi with a yellow stripe beneath; all the tarsi more or less reddish. Wings hyaline, with a fuscous cloud in the marginal, second cubital and a part of the third discoidal cells; cubital vein originating at or slightly beyond the transverse median nervure.

♀. Unknown.

Type, a male taken at Omaha, Nebraska, August 17, 1914, (L. T. Williams).

Similar to *mellinoides* from which it differs in the smaller size, in being marked with yellow to a much greater degree and in the eyes being parallel rather than diverging towards the clypeus. Named for Mr. L. T. Williams in recognition of his excellent collecting of Hymenoptera.

***Hypomellinus venustus* sp. nov.**

♂. Length 11 to 12 mm. General color rufous. Head rufous; covered with a very fine, subtle, whitish pile; eyes slightly converging towards the clypeus; clypeus convex, margined at the apex, base with large shallow punctures; front, vertex and cheeks, somewhat glabrous, with coarse, sparse punctures; distance between the posterior ocelli slightly greater than the distance between them and the nearest eye margin; antennae long and slender, reaching beyond the mesoscutellum; joints eight to ten of the flagellum slightly emarginate; clypeus, mandibles except the tips, front below the insertion of the antennae, inner and outer eye margins, a short, longitudinal line directly below the anterior ocellus, and scape below, yellow; scape above and flagellum entirely rufous; ocellar region black. Thorax rufous; with coarse, sparse punctures; episternum and epimeron of mesothorax separated; suture between mesoseutum and mesoscutellum foveolate; enclosed space of propodeum distinct, divided by a foveolate channel, striated throughout, the striae coarse and slightly oblique; posterior face of propodeum rugoso-punctate; line on the pronotum, wide fascia on the mesoscutellum, and metanotum yellow;

mesoscutum at the apex, a narrow median line on the mesoscutum, narrow basal margins of the episterna, wide line above the intermediate coxae, enclosed space of propodeum, and a small triangular spot at the apex of the propodeum, black. First segment of abdomen coarctate; all the tergites and sternites with deep, sparse punctures; last sternite terminating in a short spine; first segment entirely rufous, second sternite rufous, second tergite piceous, remaining segments black; fascia at the apex of the first tergite deeply emarginate medially, wide fascia at the apex of the second tergite slightly emarginate medially; fasciae at the apex of the third, fourth and fifth tergites, a large spot on the last tergite, narrow fascia at the apex of the second sternite, and small lateral spots on the third sternite, yellow. Legs rufous; spot at the apex of anterior and intermediate femora, anterior and intermediate tibiae below, and anterior tarsi, yellow. Wings hyaline, except a fuscous cloud which covers the marginal, the second and third submarginal, and the first discoidal cells; submedian cell longer than the median; cubitus of hind wings interstitial with the transverse median nervure; stigma yellow.

♀. Unknown.

Type, a male collected at Harrison, Nebraska, August 12, 1912, (R. W. Dawson). One paratype, a male collected at Omaha, Nebraska, July 14, 1914, on *Chamaecrista fasciculata*, (L. T. Williams). The paratype differs from the type in having the legs entirely rufous, no yellow line below the anterior ocellus and in having the basal portion of the second abdominal tergite more reddish than piceous.

This species is allied to *rufocinctus*, but may easily be distinguished by the general color being rufous, while that of the former is black.

***Hypomellinus tricinetus* sp. nov.**

♀. Length 13 to 14 mm. General color rufous; body covered with a fine, subtle pile. Head rufous; eyes slightly converging towards the clypeus; clypeus very convex, basally and laterally with sparse silvery pubescence, basally with coarse punctures, margined at the apex; front, vertex and cheeks with coarse, sparse punctures interspersed with very minute punctures; distance between posterior ocelli slightly greater than the distance between them and the nearest eye margin; antennae long, slender, reaching beyond the mesoscutellum, entirely rufous. Thorax rufous, with large, deep punctures; propodeum rugose; suture between the mesoscutum and mesoscutellum foveolate; episternum and epimeron of mesothorax separated; enclosed space of propodeum distinct, channelled medially, with coarse, slightly oblique striae; wide fascia on the mesoscutellum, and metanotum, yellow. First segment of abdomen coarctate, with large, deep punctures like those of the mesoscutum; remaining segments with finer, deep punctures; pygidium margined at the sides with sparse shallow punctures; first and second segments rufous, remaining segments black; pygidium reddish; narrow fascia at the apex of first tergite

slightly emarginate medially, a wide fascia at the apical half of the second tergite, a narrow fascia at the apex of the third tergite and a small lateral spot on the second sternite, yellow. Legs rufous; anterior femora somewhat broadened; anterior and intermediate tibiae yellow beneath. Wings hyaline; except a fuscous cloud which covers the marginal, second and third submarginal and first discoidal cells; submedian cell longer than the median; cubitus in hind wings interstitial with the transverse median nervure; stigma yellow.

♂. Unknown.

Type, a female collected at Omaha, Nebraska, August 5, 1913, on *Chamaecrista fasciculata*, (L. T. Williams). Two female paratypes taken at Omaha, Nebraska, August 5, 1913, (L. T. Williams), and August 3, 1914 on *Chamaecrista fasciculata*, (L. T. Williams).

Related to *venustus*, but may easily be distinguished from that species by having only three yellow fasciae on the abdominal tergites, and by the larger size.

Mellinus wolcottii H. S. Smith

1908. *Mellinus wolcottii* H. S. Smith, Ent. News, xix, p. 299.

On account of the obscure, hand-written label on the type specimen the locality was erroneously cited as Beaver, Indiana. The collector (Dr. R. H. Wolcott) informs the writer that the correct type locality is Beaver Island, Michigan.

Family PHILANTHIDAE

Subfamily PHILANTHINAE

Philanthus barbiger sp. nov.

1908. *Philanthus albopilosus* H. S. Smith, Univ. Nebr. Studies, viii, p. 355, (in part), (nec Cresson, nec Packard).

♂. Length 8 to 10 mm. Black, covered with rather long, sparse, whitish pubescence. Head black; clypeus, cheeks and lower part of front finely but not closely punctate; vertex and occiput finely punctate; clypeus and sides of face to the emargination of the eyes whitish; a large spot between and above the antennae and a spot behind the eyes lemon-yellow in color; spot on scape beneath and first two joints of flagellum beneath whitish; pedicellum entirely black; flagellum black above, dark testaceous beneath; face on the sides and below the antennae covered with long, conspicuous, silvery pubescence; on the rest of the head the pubescence much thinner and not so obvious, but rather long. Thorax black, shining, sparsely punctured, covered with long, thin, whitish pubescence; mesoscutum impressed medially, and at the sides above the tegulae; mesoscutellum impressed medially; upper surface of propodeum channelled medially; pronotum, posterior lobes of pronotum, spot on

episterna above, tegulae, large transverse spot on mesoscutellum and metanotum, yellowish. Abdomen black, covered with long, thin, whitish pubescence; dorsally with large, sparse, shallow punctures; ventrally with the punctures somewhat smaller and closer; first tergite with large lateral yellow spots; second tergite with a rather broad yellowish band which is deeply and narrowly emarginate medially, and squarely emarginate on each side posteriorly; sometimes this band is completely interrupted so that the segment has the appearance of having two large lateral spots with a medial transverse spot apically; tergites two to five with an apical yellowish band, which is rather widely emarginate anteriorly at the sides; apical tergite and venter immaculate. Coxae, trochanters and basal two-thirds of femora, of front, middle and hind legs, entirely black; apical third of femora, tibiae and tarsi, of front, middle and hind legs, lemon-yellow. Wings hyaline, iridescent. Submedian cell of anterior wings shorter than the median; base of wings yellowish; stigma and nervures testaceous.

♀. Differs from male as follows; yellow on front extends only slightly above the base of antennae; front strongly striato-punctate; mandibles yellowish except the tips; scape beneath entirely yellowish; only a minute spot on basal joint of flagellum beneath yellowish; flagellum beneath rufous. Yellow line on pronotum narrowly interrupted and no yellow on the mesoscutellum. Abdomen more sparsely punctate; second tergite with two large yellow spots laterally and a narrow transverse apical spot medially; sixth tergite with two yellowish spots. Apical joints of tarsi rufous.

Type, a male taken at Harrison, Nebraska, August 15, 1908, (C. H. Gable). Allotype, a female collected at Ute Creek, Colorado, August 9 on *Chrysothamnus* sp., (R. W. Dawson). Twenty paratypes collected at Harrison, Nebraska, August 4, 1908; nine paratypes, Harrison, Nebraska, August 9, 1908; three paratypes, Harrison, Nebraska, August 15, 1908; one paratype, Glen, Nebraska, August 17, 1906; one paratype, Ute Creek, Colorado, August 9; collected on *Helianthus* sp., *Solidago* sp. and *Chrysothamnus* sp.

Related to *pulcher*, from which it is distinct by the long, whitish, conspicuous pubescence on the face below the antennae, by the different sculpture of the propodeum and by the larger punctures on the abdomen.

***Philanthus siouxensis* sp. nov.**

1908. *Philanthus albifrons* H. S. Smith, Univ. Nebr. Studies, viii, p. 356, (nec Cresson, nec Viereck and Cockerell).

♀. Length 8 to 10 mm. Black, covered with very short, sparse, whitish pubescence. Head black; clypeus, occiput and cheeks very sparsely punctate; front below the ocelli strongly striato-punctate; mandibles except the tips, clypeus, front to the emargination of the eyes except a wide black line reaching down from the back of the occiput to the base of each antenna, scape

beneath and at the tip above, pedicellum beneath, first joint of flagellum beneath, a line behind the eyes and sometimes two spots back of the ocelli, lemon-yellow; flagellum entirely rufo-testaceous but darker above than below. Thorax black, sparsely punctured; mesoscutum anteriorly and mesoscutellum, impressed medially; upper surface of propodeum inclined to be finely rugose medially; line on pronotum, posterior lobes of pronotum, spot on episterna above, four spots on the anterior part of the mesoscutum (sometimes obsolete), and metanotum, lemon-yellow; (in one paratype there are two yellow spots on the mesoscutellum; in another the mesoscutellum is entirely yellow). Abdomen black, a little more closely punctured than the thorax; ventrally with the large punctures closely interspersed with very minute ones; first tergite with two large lateral spots and a narrow transverse apical spot lemon-yellow; second tergite with a wide yellow band which is somewhat narrowed medially, and with very small, lateral, black spots near the apex of the tergite; tergites three to five with a narrow, apical, yellow band, suddenly and much dilated at the sides; apical tergite usually immaculate, sometimes with lateral yellow spots; venter immaculate. Coxae and trochanters black, tinged with rufous beneath and usually with a very small yellow spot at the apex beneath; basal half of front femora, basal two-thirds of intermediate femora and all of hind femora except the tips, rufous; remainder of femora lemon-yellow; tibiae lemon-yellow and tarsi yellowish at the base, the color becoming rufous on the apical joints. Wings tinged with fuscous, yellow at the base; stigma and nervures testaceous; submedian cell in anterior wings slightly shorter than the median.

Type, a male collected at Harrison, Nebraska, August 4, 1908, (R. W. Dawson): one paratype, Glen, Nebraska, August 8, 1905; one paratype, Glen, Nebraska, August 13, 1906 on *Cleome serrulata*, (M. H. Swenk); one paratype, Glen, Nebraska, August 17, 1906, (H. S. Smith); one paratype, Warbonnet Canyon, Nebraska, July 20, 1901, on *Petalostemum* sp., (M. Cary); two paratypes, Mitchell, Nebraska, July 17, 1916, on *Melilotus alba*, (C. E. Mickel); two paratypes, Mitchell, Nebraska, July 21, 1916, (C. E. Mickel) and three paratypes, Mitchell, Nebraska, July 22, 1916, (C. E. Mickel).

This is a very distinct species and can easily be distinguished by the rufous femora, the coloration and puncturation of the abdomen and the wings being tinged with fuscous rather than hyaline.

Oocletes bicinctus sp. nov.

♀. Length 18 to 23 mm. Black, shining, clothed with rather long, yellowish pubescence (very sparse on abdominal segments two to six). Head black; clypeus rather sparsely punctate, apical margin ciliate; front finely and rather closely punctate; vertex and cheeks very sparsely punctate, appearing almost impunctate; mandibles except the tips, clypeus entirely, front up to the emar-

gination of the eyes except a small black spot immediately above the insertion of the antennae, scape below and first joint of flagellum below, lemon-yellow; a ferruginous spot back of the eyes. Thorax entirely black, shining; pronotum, mesoscutum, mesoscutellum and metanotum very sparsely punctate, appearing almost impunctate; episterna and propodeum entirely with fine, rather sparse punctures; tegulae yellowish. Abdomen above, black, shining, with a few scattered punctures, the apical tergite closely and minutely punctured interspersed with a few larger, scattered punctures; venter finely and minutely punctured with a few larger, scattered punctures; basal segment of abdomen entirely ferruginous except a narrow, apical margin above, black; the basal two-thirds of the second abdominal sternite ferruginous, the second tergite with the narrow, basal margin ferruginous, a transverse, broad, yellow band and the narrow, apical margin, black; remainder of the abdomen entirely black. All the coxae and trochanters black; the femora black on the basal half, ferruginous on the apical half; tibiae and tarsi ferruginous. Wings yellowish, darker at the tips; nervures testaceous; cubitus in posterior wings interstitial with the transverse median nervure.

Type, a female taken at Fort Garland, Colorado, August 9, (L. Bruner). This specimen is 18 mm. long. It is over cyanided so that the yellow on the head and abdomen appears reddish. One paratype, Ute Creek, Colorado, Sage Flats, August 14, (L. Bruner). This specimen is 23 mm. long.

A very distinct species. The shining, almost impunctate body, the entirely black thorax and the coloration of the abdomen will serve to distinguish it.

Subfamily CERCERINAE

Cerceris cognata sp. nov.

♀. Length 12 to 14 mm. Black; spot on the base of the clypeus (sometimes almost covering the clypeus), large spot each side of the face, small spot on the mandibles basally, sometimes two small spots on the vertex, two spots on pronotum, tegulae entirely, two spots on metanotum (sometimes metanotum entirely), and broad bands, widely and deeply emarginate, on abdominal tergites two to five, all yellow; venter black, coxae and trochanters black, femora reddish black, except the anterior and intermediate ones tipped with yellow, tibiae largely yellowish with a black spot at the tip behind, anterior and intermediate tarsi reddish, posterior tarsi black. Body with moderate, deep, close punctures, finer and closer than in *fumipennis*; clypeus simple, not produced; enclosure of propodeum with longitudinal striae curved and becoming transverse at the sides, almost obsolete medially; pygidial area about three times as long as broad, slightly narrowed basally, very much narrowed and rounded at the tip, rugose; fifth abdominal sternite with a deep impression medially, slightly emarginate and reflexed medially at the apex; wings yellowish, darker in the marginal cells.

♂. Unknown.

Type, a female taken at Worland, Wyoming, July 10, 1911, (L. Bruner); one paratype from Logan, Utah.

Rather closely related to *fumipennis* by lacking the clypeal process, by the markings of the face, and by the structure of the fifth abdominal sternite; distinct from that species in the finer and closer puncturation, markings of the abdomen, and much lighter wings.

***Cerceris flavofasciata* H. S. Smith**

1928. *Cerceris flavofasciata* H. S. Smith, Univ. Nebr. Studies, viii, p. 364.

The male differs from the female as follows: Length 9 to 11 mm.; clypeus simple, face entirely yellow below the antennae; usually two yellow spots on mesoscutellum (sometimes wanting); first abdominal tergite either entirely black or slightly marked with yellow at the apex; second tergite with a broad yellow band as in the female; remaining tergites with a narrow apical yellow band widened at the sides; wings subhyaline, quite dark on the costal margin. Enclosed area of propodeum and puncturation same as in the female.

Allotype, South Bend, Nebraska, July 4, 1915, on *Ceanothus americanus*, (E. G. Anderson).

***Cerceris architis* sp. nov.**

♀. Length 16 mm. Black; spot on the clypeal process above, spot beneath the process, a large spot each side of the face, small spot each side on the pronotum, tegulae, metanotum, two spots on first abdominal tergite (nearly connected), broad band on the second tergite, deeply emarginate medially, narrow bands on tergites three to five, all yellow; venter black; legs black, except femora tipped with yellow, tibiae and tarsi of anterior and intermediate pair yellow, and tibiae of hind pair largely yellowish. Body rather finely but not closely punctate; clypeal process about twice as broad as long, slightly emarginate medially; enclosure of propodeum large, mostly smooth but with fine striations basally; pygidial area a little more than twice as long as broad, narrowed and rounded at the tip. Wings fuliginous (much as in *fumipennis*), stigma black.

♂. Unknown.

Type, a female collected at South Bend, Nebraska, July 2, 1915, on *Melilotus alba*, (E. G. Anderson).

Very distinct in the shape of the clypeal process, the sculpture of the enclosure of the propodeum, the black stigma, dark wings and yellow markings of the abdomen.

***Cerceris arbuscula* sp. nov.**

♀. Length 10 to 11 mm. Black; spot on the clypeal process, large spot on each side of the face, two spots on pronotum, tegulae, metanotum, two small lateral spots on first abdominal tergite, rather broad band on the second tergite, narrowed medially, narrow bands on tergites three to five, widened at the sides, all yellow; venter black; legs black, except femora tipped with yellow, tibiae and tarsi of anterior and intermediate pairs yellow, hind tibiae yellowish, hind tarsi dusky. Body moderately punctured, clypeal process low, broader than long, broader at the base, rounded beneath (much as in *psamathe*); enclosure of propodeum small, rather coarsely striated longitudinally; pygidial area about twice as long as broad, sides nearly parallel, rounded at the tip, with deep punctures basally. Wings subhyaline, dark in the marginal cell and at the tips; stigma yellowish.

♂. Unknown.

Type, a female collected at Omaha, Nebraska. July 23, 1913, (L. T. Williams).

In Banks' table this runs out near to *psamathe*, but differs from that species in having the mandibles, interantennal carina, occiput and propodeum entirely black, and in the differently sculptured enclosure of the propodeum.

***Cerceris confrons* sp. nov.**

1908. *Cerceris rufinoda crucis* H. S. Smith, Univ. Nebr. Studies, viii, p. 370, (in part), (nec Viereck and Cockerell).

♀. Length 8 to 9 mm. Black; mandibles at base, spot above base of mandibles, produced portion of clypeus, spot between clypeus and insertion of antennae, large spot each side of the face, scape beneath, small spot behind the summit of the eyes, two spots on pronotum, spot on episterna beneath the tegulae, tegulae, two spots on mesoscutellum, metanotum and narrow subequal bands on abdominal tergites two to five, all creamy white; propodeum except the enclosed space, first and second abdominal segments, all red; venter except first two sternites, black; anterior and intermediate legs black, except femora tipped with whitish, tibiae largely whitish and tarsi yellowish; hind legs red, except tibiae and tarsi blackish; flagellum fulvous beneath. Body moderately and closely punctured; clypeus produced so that it forms a cone; the apex of the clypeus very strongly bidentate, the two teeth about as far apart as the length of the scape; episterna with a spine before the intermediate coxae; enclosed space of propodeum transversely rugose (much as in *rufinoda*); pygidial area narrow at the base, convex at the sides and truncate at the tip. Wings hyaline, dark at the tips, stigma black.

♂. Unknown.

Type, a female collected at Harrison, Nebraska, August 4, 1908, on *Helianthus* sp., (C. H. Gable). Four paratypes from Harrison, Neligh and Glen, Nebraska, and Worland, Wyoming.

Related to *rufinoda crucis*, but distinct in having the clypeus produced and in the color markings which are indicated above.

***Cerceris intractibilis* sp. nov.**

♀. Length 8 to 9 mm. Black; tiny spot on clypeal projection, tiny spot at base of interantennal carina, large spot each side of the face, scape beneath, two large spots on the pronotum, band on the mesoscutellum, stripe each side on the propodeum, broad bands on the first and third abdominal tergites, that on the third tergite slightly narrowed medially, and narrow bands on tergites four and five, all yellow; tegulae reddish, second tergite immaculate; venter black; legs black, tips of anterior and intermediate femora and apical half of hind femora reddish, all the tibiae largely yellowish, anterior and intermediate tarsi yellowish, hind tarsi blackish. Body moderately but not closely punctate; clypeus slightly produced subconically with a broad depression between the tip of the projection and apex of the clypeus, the depression shining, with a few large punctures; enclosed space of propodeum with a median groove and punctured at the sides; pygidial area about two and one-half times as long as broad, narrowed at the base and the tip. Wings subhyaline, dark on the costal margin, stigma yellowish.

♂. Unknown.

Type, a female collected at Child's Point, Nebraska, July 14, 1915, (E. M. Partridge).

In Banks' table this runs out at *zelica* but differs from that species in the yellow markings of the head, thorax and abdomen, in its smaller size and in the different pygidial area. It is like *insolita* in having the second abdominal tergite immaculate but differs from that species in having the clypeus produced and different markings of the thorax.

***Cerceris squamulifera* sp. nov.**

♀. Length 10 to 11 mm. Black; mandibles except the tip, large spot at the base of the mandibles, clypeus except a narrow transverse mark at the apex, a large spot each side of the face connected below the insertion of the antennae, interantennal carina, scape entirely, long, narrow line on the cheeks, two tiny spots on the vertex, pronotum clear across, tegulae, spot behind the posterior lobes of the pronotum, band on the mesoscutellum, a broad stripe on each side of the propodeum produced on the inner side above along the margin of the enclosure, broad bands on abdominal tergites one to three, broad bands on tergites four and five much narrowed medially, and lateral spots on sternites two to four, all yellow; venter black, except spots on sternites connected by reddish bands; legs largely reddish, anterior and intermediate tibiae and tarsi yellowish. Body moderately but not closely punctured; clypeus produced so as to form a small, yellowish, semitranslucent scale parallel with the face. Enclosure of propodeum smooth, shining, with a median groove and one or two fine striae at the sides; pygidial area about twice as long as broad, much narrowed at the base, slightly narrowed and truncate at the tip, punctured at the base, reddish at the tip. Wings hyaline, slightly darker at the apex, stigma yellow.

♂. Unknown.

Type, a female collected at Imperial, Nebraska, July 2, 1911, (J. T. Zimmer).

A very distinct species in the peculiar clypeal projection, in the shape of the propodeal stripes, which are produced inwardly to form sort of a hook, and in being profusely marked with yellow.

***Cerceris argia* sp. nov.**

♀. Length 9 to 10 mm. Black; base of mandibles, clypeal projection above except the tip, spot at base of interantennal carina, large spot each side of the face, scape beneath, spot behind the summit of the eyes, two spots on pronotum, spot behind the posterior lobes of the pronotum, tegulae, two spots on mesoscutellum, metanotum and rather wide bands much narrowed medially on abdominal tergites two to five, all yellow; propodeum except enclosure, and first segment of abdomen red; venter except first and basal part of second abdominal sternites, black; anterior legs black, except the tips of femora, tibiae and tarsi yellowish; intermediate and posterior legs largely fulvous; flagellum fulvous beneath, black above; body very moderately and not closely punctate (not nearly so coarsely and closely punctured as in *rufinola*); clypeal projection about as long as it is broad at the base, narrowed at the tip, concave beneath the tip (much the same shape as in *irene*); episterna with a spine before the intermediate coxae; enclosure of propodeum transversely rugose, channelled medially; pygidial area about twice as long as broad, narrowed at the base, narrowed and rounded at the tip. Wings subhyaline, slightly darker at the tips, stigma blackish.

♂. Unknown.

Type, a female collected at Lincoln, Nebraska, August 5, 1904, on *Solidago* sp., (M. H. Swenk).

Related to the following species, but distinct from that in having a different clypeal projection, in the different puncturation of the body, and in having a differently shaped pygidial area.

***Cerceris echo* sp. nov.**

1908. *Cerceris rufinoda crucis* H. S. Smith, Univ. Nebr. Studies, viii, p. 370, (in part), (nec Viereck and Cockerell).

♀. Length 7 to 10 mm. Black; base of mandibles, large spot on each side of the face, small spot behind the summit of the eyes, two spots on the pronotum, tegulae, two spots on the mesoscutellum, metanotum, broad band on second abdominal tergite, narrower bands on tergites three to five, all yellow; propodeum except enclosure, and first abdominal segment, red; venter except first and basal part of second abdominal sternites, black; all the coxae and trochanters blackish, anterior and intermediate femora blackish with the apical third reddish yellow; posterior femora reddish, blackish at the base, all the tibiae and tarsi yellowish; flagellum fulvous beneath, black above. Body moderately and quite closely punctate; clypeus swollen so as to form a raised, glabrous ridge above the apex, this ridge is slightly raised at the sides so as to

be almost dentiform; beneath the ridge the clypeus is slightly concave and impunctate; episterna with a spine before the intermediate coxae; enclosure of propodeum transversely rugose; pygidial area about twice as broad as long, narrow at the base, narrowed and truncate at the apex. Wings subhyaline, dark at the apex, stigma brownish.

♂. Unknown.

Type, a female collected at Monroe Canyon, Sioux County, Nebraska, August 4, 1908, (C. H. Gable). Thirty-seven paratypes collected at Omaha, Mitchell, Harrison, Glen, and Monroe Canyon, Nebraska; visits flowers of *Chamaecrista fasciculata*, *Melilotus alba*, *Helianthus* sp., *Solidago* sp. and *Cleome serrulata*; taken from July 13 to August 29.

Related to *rufinoda crucis* from which it is distinct by the structure of the clypeus, by the different puncturation of the body, by the spined episterna and by the somewhat differently shaped pygidial area.

Eucerceris elegans Cresson

1879. *Eucerceris elegans* Cresson, Trans. Amer. Ent. Soc., vii, Proc. p. xxiii.

1882. *Eucerceris elegans* Cresson, Trans. Amer. Ent. Soc., x, Proc. p. vii.

Two female and two male specimens; collected at Halsey, Nebraska, July 25 to August 29. The female differs from the male as follows; Length 11 to 13 mm. Head, except ocellar space, entirely ferruginous; no yellow on the mesoscutum; middle lobe of clypeus produced so as to form a low, cone-shaped projection; pygidial area about two and one-half times as long as broad, sides slightly convex, truncate at the tip; no fringes of bristles on ventral segments; otherwise similar to the male.

Subfamily LARRINAE

Tachysphex granulosus sp. nov.

1908. *Tachysphex tarsatus* H. S. Smith, Univ. Nebr. Studies, viii, p. 381, (in part), (nec Say).

♀. Length 10 to 11 mm. Rather stout. Anterior margin of clypeus slightly rounded out, with a fairly strong lateral tooth, and very slightly emarginate medially; apical half of clypeus polished, shining, with a few scattered punctures; basal half with close, deep, separate punctures; antennae normal, not thickened medially, joint two about half as long as joint three, which is about three-fourths as long as four; interocular space at vertex about equal to the combined length of antennal joints two and three. Front closely and densely punctured, appearing granulate; the interocular area is punctured

likewise but the punctures are much finer; on the vertex the punctures are separated, not appearing granulate; mesoscutum closely and finely punctured, the episterna very finely granulate; mesoscutellum with fine separate punctures, the latter about their own diameter apart; disc of propodeum finely rugose medially, granulate at the sides; the sides of the propodeum granulate and the posterior face rather coarsely, transversely rugose; the fovea smooth, moderately deep and longer than wide; legs strongly spinose; the longer spur of the hind tibiae shorter than the basitarsus; wings large, subfuscous; the marginal cell quite broadly and obliquely truncate, the second submarginal cell slightly wider on the radial vein than the third submarginal; abdomen stout, about the length of the head and thorax combined; pygidial area well defined, about twice as long as it is broad at the base, narrowly truncate at the apex, with a few scattered, shallow punctures; sternites two to five each with a transverse row of large shallow punctures near the apex. Black; tarsi slightly reddish, tegulae dark testaceous, two basal segments of abdomen reddish, third segment obscurely reddish. Front with rather fine, thin, silvery pile; remainder of body with a sparse silvery pile; the abdominal tergites not silvery fasciate.

♂. Unknown.

Type, a female taken at Glen, Nebraska, August 15, 1906, (P. R. Jones).

Probably related to *tarsatus*, from which it differs in punctuation, in the sculpture of the propodeum, in the color of the wings and in the coloration of the abdomen.

***Tachysphex sanguinosus* sp. nov.**

♀. Length 12 to 14 mm. Medium stout. Anterior margin of clypeus rounded, with a strong lateral tooth, and emarginate medially; apical half of clypeus polished, shining; the clypeus throughout with a number of large, shallow punctures; on the basal half these large punctures are interspersed with close, fine punctures; antennae normal, not thickened medially, joint two less than one-half as long as joint three, which is about three-fourths as long as joint four; the interocular space at the vertex is about equal to the combined length of antennal joints two and three; front finely and densely punctured, appearing granular; interocellar space with close, minute but separate punctures; vertex with fine, separate punctures; mesoscutum and mesoscutellum with fine, very close punctures, the episterna granulate; disc of propodeum granulate throughout; sides and posterior face of propodeum strongly, transversely striate; a strong carina separates the disc of the propodeum from the posterior face; fovea wedge-shaped, large and smooth; legs strongly spinose, the longer spur of the hind tibiae shorter than the basitarsus; wings large, hyaline, the marginal cell broadly and obliquely truncate at the apex, the second and third submarginal cells about equal in length on the radial vein; abdomen moderately stout, about as long as the combined length of the head and thorax; pygidial area not well defined; about twice as long as it is broad at the base, with a few obscure scattered punctures. Black; tarsi slightly

reddish, abdomen entirely bright red. Body thinly clothed with short, silvery pubescence, most prominent on the front; the abdomen not silvery fasciate.

♂. Unknown.

Type, a female taken at Omaha, Nebraska, September 8, 1913, (L. T. Williams).

Related to *tarsatus*, but distinct from that species in the different relative lengths of the antennal joints, different sculpture of the propodeum and the larger size.

***Tachysphex zimmeri* sp. nov.**

♀. Length 11 to 12 mm. Rather stout. Anterior margin of clypeus rounded, with a strong lateral tooth; apical half of clypeus polished, shining, with a few scattered punctures; basal half of clypeus with close, fine punctures; antennae normal not thickened medially; joint two less than half as long as joint three, which is about three-fourths as long as joint four; interocular space at the vertex about equal to the combined length of antennal joints two and three; front finely and densely punctured, appearing granulate; punctures of interocular space somewhat finer and separated, vertex with the punctures separated as much as their own diameter; mesoscutum closely and finely punctured, the mesoscutellum with fine, well separated punctures; the episterna granulate; disc of propodeum granulate; sides of propodeum finely striate; posterior face of propodeum coarsely striate; the fovea moderately large and smooth; disc of propodeum separated from the posterior face by a strong carina; legs strongly spinose; longer spur of hind tibiae shorter than the basitarsus; wings large, subhyaline; the marginal cell broadly and obliquely truncate, the second and third submarginal cells about equal in length on the radial vein; abdomen moderately stout; the pygidial area more than twice as long as its width at the base, fairly well defined, finely reticulate, with sparse shallow punctures. Black; tarsi reddish, abdomen entirely red. Body thinly clothed with short, silvery pubescence, the abdomen silvery fasciate.

♂. Unknown.

Type, a female collected at Monroe Canyon, Sioux County, Nebraska, August 20, 1908, (J. T. Zimmer).

Belongs to the *tarsatus* group, but is distinguished by the different clypeus, different puncturation, and different pygidial area. Named for Mr. J. T. Zimmer, who collected the specimen.

***Tachysphex erythracus* sp. nov.**

♀. Length 8 to 9 mm. Moderately stout. Clypeus slightly rounded or subtruncate, very narrowly margined anteriorly (much less margined than in *tarsatus* or *semirufus*); not emarginate medially and without lateral teeth; apical half of clypeus polished, with a few large scattered punctures; basal half of clypeus with small, separated punctures; antennae normal, not thickened medially; joint two about one-third the length of joint three, which is slightly shorter than joint four; interocular space at vertex equal to the combined

length of antennal joints two and three; front densely punctured, appearing granulate; interocellar space with fine, separated punctures; on the vertex the punctures are small, shallow and slightly more than their diameter apart; mesoscutum with small, shallow, well-separated punctures; mesoseutellum polished, with a shallow, sparse puncturation; episterna granulate; disc of propodeum granulate throughout; sides of propodeum finely striato-granulate; posterior face moderately rugose; with a medium-sized, shallow, wedge-shaped fovea; legs moderately spinose; the longer spur of the hind tibiae shorter than the basitarsus; wings large; marginal cell fairly broadly and squarely truncate; the second and third submarginal cells about equal in length on the radial vein; abdomen moderately stout, not as long as the head and thorax combined; pygidial area well defined; not twice as long as it is broad at the base; finely reticulate throughout and with a number of fine, scattered punctures. Black; tarsi somewhat reddish; three basal segments of the abdomen reddish. Body with a thin, sparse, silvery pubescence, that on the front somewhat heavier; the abdomen not silvery fasciate.

♂. Unknown.

Type, a female collected at Warbonnet Canyon, Sioux County Nebraska, June 6, 1901, on *Erysimum* sp., (M. Cary).

Belongs to the *tarsatus* group; is distinct by the marginal rim of the clypeus being very narrow, while on others of that group it is rather wide; also differs in the puncturation of the body, in the sculpture of the propodeum and in the sculpture of the pygidium.

***Tachysphex angularis* sp. nov.**

♂. Length 5.5 to 6 mm. Slender. Clypeus extended anteriorly so as to form a triangular projection, the apical middle of the clypeus forming the apex of the triangle; apical half of the clypeus polished, with a few large, deep punctures; basal half of clypeus closely and finely punctured; joint two of antennae more than one-half as long as joint three which is slightly shorter than joint four; interocular space at vertex about equal to the combined length of antennal joints three and four; front densely punctured, appearing granulate; vertex with fine, well separated punctures; mesoscutum and mesoseutellum with fine, well separated punctures; episterna closely punctured; disc of propodeum finely rugose; sides of propodeum strongly, transversely striate; posterior face of propodeum coarsely striate; the disc separated from the posterior face by a strong carina; fovea deep, long, smooth, wedge-shaped; eighth ventral segment broadly emarginate; legs moderately spined; longer spur of hind tibiae shorter than the basitarsus; wings subhyaline; marginal cell broadly and obliquely truncate at the apex; second and third submarginal cells about equal in length on the radial vein. Black; tarsi somewhat reddish; tegulae more or less testaceous; first three segments of abdomen reddish. Body clothed with thin, short, silvery pubescence; the abdomen silvery fasciate.

♀. Unknown.

Type, a male collected at Sowbelly Canyon, Sioux County, Nebraska, June 23, 1911, (R. W. Dawson). Four paratypes collected at the same place on the same date.

Allied to *nigrocaudatus*. The triangular clypeal projection, sculpture of the propodeum and punctured episterna will serve to distinguish it from that species.

***Tachytes austerus* sp. nov.**

♀. Length 8 to 9 mm. Moderately slender. Anterior margin of clypeus narrowly and deeply emarginate medially, with three obtuse, lateral teeth; second joint of antennae about three-fourths the length of the third, which is equal in length to the fourth; interocular space at the vertex about equal to the combined length of antennal joints three and four; front with moderately close punctures; the space between the punctures finely reticulate; vertex with intermingled punctures of varying size; mesoscutum and episterna punctured like the front; mesoscutellum shining, sparsely punctate; disc of propodeum very closely punctate, appearing granulate, shining and impunctate on the posterior margin; sides of propodeum finely and rather closely punctate; posterior face closely and deeply punctate, the punctures almost touching, channelled medially; longer spur of hind tibiae about equal in length to the basitarsus; wings subhyaline; marginal cell narrowly and obliquely truncate; second submarginal cell about a third wider on the radial vein than the third submarginal; abdomen dorsally finely and sparsely punctured; ventrally the punctures are larger and more variable in size. Black; first and basal half of the second abdominal segments reddish; leg spines pale; body clothed with sparse silvery pile; bristles of pygidium bronzed.

♂. Unknown.

Type, a female taken at Omaha, Nebraska, August 5, 1914, (L. T. Williams).

Related to *abdominalis*, but differs from that species by having the anterior margin of the clypeus strongly emarginate, in the different puncturation, smaller size, and the recurrent veins not proximate on the cubitus.

***Tachytes maestus* sp. nov.**

♀. Length 6 to 7.5 mm. Slender. Anterior margin of clypeus slightly emarginate medially, with three lateral teeth; second antennal joint about three-fourths the length of the third, which is subequal in length to the fourth; interocular space at the vertex about equal to the combined length of antennal joints three and four; front with rather sparse, shallow punctures; vertex more closely and finely punctured; mesoscutum, episterna and mesoscutellum with rather sparse, deep punctures; disc of propodeum granulate, with a shallow fovea medially on the posterior margin; sides of propodeum punctate; posterior face quite closely punctate; longer spur of hind tibiae shorter than the basitarsus; wings subhyaline; marginal cell obliquely truncate at the apex;

second submarginal cell much wider on the radius than the third submarginal; abdomen with fine, sparse, punctures dorsally; ventrally the punctures of moderate size, deep and fairly close. Entirely black; pygidium clothed with golden pubescence; body clothed with sparse, thin, silvery pile.

♂. Unknown.

Type, a female collected at Omaha, Nebraska, July 31, 1914, (L. T. Williams); five paratypes from Omaha, Nebraska, August 18 and August 25, (L. T. Williams).

Belongs to the group composed of *parvus*, *minutus*, and *minor*. It may possibly prove to be the female of one of these.

Larropsis picina sp. nov.

♀. Length 13 mm. Clypeus broadly and shallowly emarginate medially, lateral angles strong, forming a tooth, with a small tooth just inside; clypeus apically with large, sparse, shallow punctures, basally with fine, close punctures; front with medium sized, close punctures; vertex with fine, close punctures; interocular space at the vertex less than the length of antennal joints two and three united; joints three and four subequal; mesoscutum with fine punctures, well separated; mesoscutellum rather shiny, with sparse, fine punctures; episterna very densely punctate; disc of propodeum strongly striate, the striae diverging from near the base; a shallow fovea at the apex; sides of propodeum strongly transversely striate; the posterior face very coarsely transversely striate, with a large wedge-shaped fovea at the base; abdomen shining; pygidium sparsely punctured; legs strongly spined. Entirely black; wings fuscous, venation black; pubescence of pygidium dark brownish; body nearly bare, a slight grayish pile on the abdomen.

♂. Length 10 to 11 mm. Clypeus more narrowly rounded out, lateral angles strong, slightly emarginate medially; puncturation of front stronger, that of the mesoscutum and mesoscutellum a little stronger and much closer than in the female; sculpture of propodeum same as in the female; abdomen with fine, well separated punctures; legs strongly spined. Entirely black; tarsi somewhat reddish; wings fuscous; head, thorax and abdomen with silvery pile, that of the face quite prominent.

Type and allotype collected at Harrison, Nebraska, August 9, 1908, (C. H. Gable). Three paratypes, males, from Harrison, Nebraska, and one paratype male from Fort Garland, Colorado.

Closely related to *aurantia*, from which it differs mainly in the different sculpture of the propodeum and by being entirely black.

Family BEMBICIDAE

Stictia spinifera sp. nov.

1908. *Monchula speciosa* H. S. Smith, Univ. Nebr. Studies, viii, p. 383, (in part), (nec Cresson).

♂. Length 20 to 22 mm. Body finely, closely punctate; head narrower than the thorax; first joint of flagellum almost as long as joints two and three

united; second abdominal sternite with two approximate, strong tubercles on the posterior margin; eighth sternite terminating in three spines, without a discal spine; fore femora much flattened; apical joint of fore tarsi greatly enlarged and flattened, as long as the combined length of tarsal joints two, three and four; apical joints of intermediate and hind tarsi also considerably enlarged; intermediate femora beneath with a longitudinal row of short, sharp spines (much as in *speciosa*); basal point of intermediate tarsi curved, spined basally. Head yellow; large spot on front, extending to the vertex on each side of the anterior ocellus, interocellar area, vertex, occiput and post-genae, all black; thorax yellow; mesoseutum, posterior portion of mesosternum, mesoseutellum (except a narrow, arcuate fascia) and metanotum (except a narrow, arcuate fascia), narrow transverse spot above on propodeum, and large lateral spots on the posterior face of the propodeum, all black; abdomen black; two large lateral spots and two small, rounded medial spots on the first tergite, a basal sinuate fasciae, broadly excavated anteriorly, on the second tergite, subapical, sinuate bands on tergites three to six, apical portion of last tergite, first sternite almost entirely, and large, lateral spots on sternites two to five, all yellow (sometimes the abdominal markings are much reduced); legs entirely yellow; a line on the femora above and apical joint of all the tarsi black (in one paratype the three apical joints of the hind tarsi are black).

♀. Unknown.

Type, a male collected at McCook, Nebraska, July, 1902, (M. H. Swenk); two paratypes, McCook, Nebraska, July, 1902, (M. H. Swenk), and Glen, August 17, 1906, on *Cleome serrulata*, (M. H. Swenk).

Runs to *pulchella* in Fox's table, but is distinct from that species in the much larger size, spinose femora and greatly enlarged apical joint of the fore tarsi; by the latter character it may be related to *speciosa*, where it was doubtfully placed by H. S. Smith, but differs from that species in the bituberculate second ventral segment, in the lack of a discal spine on the eighth ventral segment and in the different color markings of the body.

Stictia exigua (Fox)

1895. *Monedula exigua* Fox, Proc. Acad. Nat. Sc. Phila., p. 370.

Specimens examined: 6 ♀, 2 ♂, collected at Glen, Nebraska; visits flowers of *Solidago* sp. and *Melilotus* sp.; taken from July 12 to August 17.

♂. Length 13 to 11 mm. Head as wide as the thorax; body moderately punctate; first joint of flagellum one-fourth longer than the second; last joint curved and obliquely truncate; second sternite strongly bituberculate on the posterior margin; fourth sternite with two, rather widely separated, slight tubercles on the posterior margin; eighth sternite terminating in three spines, without a discal spine; intermediate femora with a very strong carina beneath,

the carina broadly and shallowly concave; all the joints of the fore tarsi broadened and flattened; basal joint of intermediate tarsi flattened, not spined basally; pulvilli large and distinct. Head yellow; front and vertex (except a transverse irregular spot before the anterior ocellus), occiput and post-genae, all black; flagellum dark testaceous above; thorax yellow; mesoscutum (except a line above the tegulae), transverse spot on pronotum anteriorly, mesoscutellum (except an apical fascia which is much broader at the sides), metanotum (except a narrow apical fascia), propodeum (except a narrow curved fascia basally and a large spot on each side), all black; abdomen black; rather narrow subapical, sinuate fascia (sometimes interrupted medially) on tergites one to six, tip of seventh tergite, first and second sternites (except lateral spots basally), sinuate bands on sternites three to six (that on the second sternite rather wide and deeply emarginate each side of the middle, the rest narrow), and apical half of middle spine of eighth sternite, all yellow; legs almost entirely yellow. Wings hyaline, reaching past the third abdominal segment.

Allotype, one male, collected at Glen, Nebraska, July 12, 1910, (J. T. Zimmer).

Family PSENIDAE

Subfamily PSENINAE

Mimesa dawsoni sp. nov.

♂. Length 6.5 mm. Front and clypeus densely silvery pubescent; clypeus slightly emarginate medially on the anterior margin; vertex shining, with sparse, very fine punctures; space between the posterior ocelli a little greater than the distance between them and the margin of the eyes; antennae almost as long as the head and thorax combined, clavate; none of the joints of the flagellum prominent beneath; mesoscutum, mesoscutellum and episterna, sparsely, finely punctate; enclosure of propodeum small, very poorly defined, finely rugose; posterior face and sides of propodeum smooth, impunctate; posterior face with a deep, longitudinal sulcus medially; petiole of abdomen about two-thirds the length of the hind femur; somewhat convex above, flattened apically, smooth, without sulci; flagellum entirely, tegulae, apex of first abdominal segment, second segment, anterior and intermediate tibiae, posterior tibiae basally, and all the tarsi, testaceous; first recurrent nervure interstitial with the second transverse cubitus; a proximal pale spot on the stigma.

♀. Unknown.

Type, a male collected at Harrison, Nebraska, August 12, 1912, (R. W. Dawson).

This species is readily recognizable by having the posterior face of the propodeum smooth and impunctate. It runs to "group 5" in Fox's paper and is apparently nearest to *unicinctus*. I take pleasure in naming this species for my friend Mr. R. W. Dawson, who collected the specimen.

***Mimesa cressoni* Packard**

1867. *Mimesa cressonii* Packard, Proc. Ent. Soc. Phila., vi, p. 405.

1898. *Psen cressonii* Fox, Trans. Amer. Ent. Soc., xxv, p. 12.

1908. *Mimesa conica* H. S. Smith, Univ. Nebr. Studies, viii, p. 389.

Specimens examined: 27 ♀, 59 ♂; collected at Lincoln, Fairmont, West Point, Broken Bow, Oxford, Haigler, Imperial, Ogallala, Brown County, Mitchell, Glen, Harrison, Monroe Canyon and Warbonnet Canyon, Nebraska; visits flowers of *Helianthus* sp., and *Gutierrezia sarothrae*; taken from June 10 to October.

Smith's type and paratypes of *conica* are all males of *cressoni*. They are not females as stated in his paper. His group of *granulosus* and *conica* was founded on what he described as females of these two species; inasmuch as all of his specimens of both species were males the grouping, of course, has no systematic value.

Family CRABRONIDAE

***Thyreopus (Blepharipus) utensis* sp. nov.**

♀. Length 7 mm. Clypeus feebly carinate medially; anterior margin of produced portion of clypeus truncate; frontal depression shallow, glabrous, the impressed line running to the fore ocellus deep; vertex, occiput and cheeks sparsely, microscopically punctate; ocelli in an equilateral triangle, the space between the two posterior ocelli distinctly less than the space between them and the nearest eye margins; first joint of flagellum distinctly longer than the second; pronotum apparently impunctate, deeply, transversely impressed before the apical margin, slightly, longitudinally impressed medially; mesoscutum, episterna and mesoscutellum very finely, sparsely punctate; episternum with a short carina which originates at the coxal cavity and terminates in a small sharp tubercle; impressed lines forming enclosed space of propodeum indistinct, not foveolate; medial furrow shallow, moderately wide, running the entire length of the propodeum; enclosed space with four very strong striae on each side of the medial furrow; sides of propodeum for the most part glabrous, indistinctly striate posteriorly; posterior face of propodeum transversely rugose, stronger on the apical portion; lateral ridges of posterior face distinct; first two abdominal segments almost impunctate, the remaining segments distinctly, microscopically punctate; pygidium narrowed at the apex, deeply excavated; wings slightly fuscous; first transverse cubitus received distinctly before the middle of the marginal cell. Entirely black; tegulae dark brownish; tibial spurs testaceous.

♂. Unknown.

Type, a female collected at Ute Creek, Colorado, July 19, 1907, (L. Bruner).

Related to *ater*, from which it differs as follows: the produced portion of the clypeus squarely truncate; puncturation of the

head and thorax finer and sparser; and the impressed lines forming the enclosure of the propodeum indistinct.

Thyreopus (Subgenus?) **stygius** sp. nov.

♀. Length 7.5 mm. Clypeus very feebly carinated; the anterior margin with the produced portion squarely truncate; frontal depression shallow, glabrous, distinct; impressed line running to the fore ocellus deep; ocelli in an equilateral triangle, the space between the posterior pair slightly less than the space between one of them and the nearest eye-margin; front, vertex, occiput and cheeks sparsely, microscopically punctate; first joint of flagellum very slightly longer than the second; pronotum transversely impressed before the apical margin, very slightly, longitudinally impressed medially; mesoscutum with distinct, well-separated punctures, more strongly and closely punctured than the head; mesoscutellum apparently impunctate; episterna punctured like the mesoscutum; episterna with a short carina originating at the coxal cavity and terminating in a short, sharp tubercle; enclosed space of propodeum distinct, the impressed lines forming it strongly foveolate; medial furrow running the entire length of the propodeum, the portion in the enclosed space strongly foveolate; enclosed space with several, short, distinct striae at the base; sides of the propodeum, finely, obliquely rugose; lateral ridges of posterior face distinct, foveolate outwardly; posterior face evidently transversely rugose; abdomen microscopically punctate, more so on the apical segments; pygidium narrowed at the apex, excavated; tibiae spinose; wings hyaline; first transverse cubitus received by the marginal cell distinctly before the middle. Black; tegulae brownish; apical abdominal segment somewhat rufous; apices of tibiae, intermediate and posterior tarsi somewhat reddish; tibial spurs testaceous.

♂. Unknown.

Type, a female collected in the Bad Lands at the Mouth of Monroe Canyon, Sioux County, Nebraska, May 28, 1901, on *Astragalus* sp., (L. Bruner).

In Fox's table this species runs out at *nigrior*, but is distinct from that species in the feebly carinate and truncate clypeus, the different sculpture of the propodeum and the larger size.

Thyreopus (**Synothyreopus**) **bruneri** sp. nov.

1908. *Crabro vernalis* H. S. Smith, Univ. Nebr. Studies, viii, p. 400, (nec Packard).

♀. Length 7 to 9 mm. Head finely granulate with sparse, shallow punctures; distance between the two posterior ocelli about equal to the distance between one of them and the nearest eye margin; impressed line running from front to anterior ocellus moderately deep; a rather indistinct impressed line running backward from the anterior ocellus; flagellum (exclusive of the pedicellum) more than twice the length of the scape; first joint of flagellum about equal in length to the two following joints united; pronotum not furrowed at the sides, slightly impressed medially, the lateral teeth small and blunt; meso-

scutum sculptured like the head; mesoscutellum with sparse, shallow punctures, slightly longitudinally striate on the posterior margin; episterna with sparse, shallow punctures; finely, transversely striate above; propodeum above finely, longitudinally striate, on the lateral and posterior sides finely rugose; abdomen microscopically punctate except the first segment which is rather glabrous and almost impunctate; pygidium broad, flat, not excavated, very strongly punctured. Black; scape at the tip, four small spots on the pronotum (sometimes only two are present), posterior lobes of pronotum, metanotum, two small, lateral, sinuate spots on first tergite, large, wedge-shaped, lateral spots on tergites two and three, large, sinuate lateral spots on tergite four, band on tergite five which is very slightly interrupted medially, fore and intermediate tibiae except a line within, posterior tibiae except at the apex, and the first joint of all the tarsi, light yellow; stigma and nervures of the wings, yellowish. Clypeus, inner orbits and tergites of the abdomen with silvery pubescence; head and thorax with very long, thin, pale hairs.

♂. Length 6 to 8 mm. Head finely granulate with sparse, shallow punctures; distance between the two posterior ocelli about equal to the distance between one of them and the nearest eye margin; flagellum about three times the length of the scape; first joint of flagellum about equal in length to the two following joints united; apical joint of flagellum distinctly curved and much flattened; pronotum not furrowed laterally, slightly depressed medially, the lateral teeth small and blunt; mesoscutum sculptured like the head; mesoscutellum with a few, sparse punctures; episterna sparsely punctured, finely, transversely striate above, propodeum longitudinally rugose above, channelled medially; sides of propodeum transversely striated; the posterior face transversely rugose; tergites of abdomen microscopically punctate; anterior trochanters about half as long as the femora, much broadened before the apex; anterior femora much flattened with a long, slender, sharp spine at the base; tibial shield broader than long; first joint of anterior tarsi much flattened. Black; apical three-fifths of scape, two elongate spots on the pronotum, posterior lobes of pronotum, broad band on the mesoscutellum narrowly interrupted medially, metanotum, lateral spots on tergites one to three (those on the first tergite almost touching), broad bands on tergites four, five and six, tergite seven almost entirely, fore and intermediate femora at the apex, all the tibiae except the apex of the intermediate and posterior, and first joint of all the tarsi, light yellow; basal half of tibial shield light yellow, apical half creamy, translucent. Clypeus, inner orbits and tergites of abdomen with silvery pubescence; head and thorax with very long, thin, pale hairs. Stigma and nervures of wings yellowish.

Type, a male collected in Sioux County, Nebraska, in May, (L. Bruner); allotype, a female collected in Sioux County, Nebraska, in May, (L. Bruner); three female paratypes and four male paratypes collected in Sioux County, Nebraska, in May, (L. Bruner); one female paratype collected at Warbonnet Canyon, Sioux County, Nebraska, May 26, 1901, (M. Cary); one female

paratype collected at Warbonnet Canyon, Sioux County, Nebraska, May 27, 1901, (M. A. Carriker, Jr.); one female paratype without data.

Closely related to *vernalis*, but quite distinct and may be distinguished as follows: the distance between the posterior ocelli is about equal to the distance between them and the nearest eye margins, in both sexes. In the female the mesoscutellum is black and punctured, and the markings on the pronotum differ from that of *vernalis*. In the male the abdominal markings differ, the venter is entirely black, and the tibial shield is quite differently shaped and colored from that in *vernalis*. The species is named for Prof. Lawrence Bruner who collected most of the specimens.

Thyreopus (subgenus?) **knoxensis** sp. nov.

♂. Length 7.5 mm. Anterior margin of clypeus truncate; impressed line of front deep; front appearing striato-punctate, remainder of head moderately punctate; space between the two posterior ocelli about equal to the space between one of them and the nearest eye margin; the two posterior ocelli behind a line drawn across the vertex at the posterior margin of the eyes; first joint of flagellum slightly longer than the second; flagellum with short, sparse, curled hair beneath; pronotum strongly toothed laterally; mesoscutum and mesoscutellum with distinct, well-separated punctures, episterna with somewhat sparse, fine punctures; propodeum above strongly channelled medially, with two distinct enclosed spaces which are more or less rugose within; the medial channel continues on the posterior face, narrowing and terminating on the apical half; lateral ridges of posterior face distinct; the sides and posterior face of the propodeum finely, transversely rugose; abdomen dorsally, microscopically punctate; fore femora not spined; intermediate tibiae without a spur; first joint of hind tarsi distinctly longer than the longer spur of the hind tibiae. Black; two small lateral spots at the base of the clypeus, scape slightly at the tip and behind, posterior lobes of pronotum, lateral spots on tergites one to four (those on segment four quite narrow), minute, lateral spots on second sternite, anterior femora in front, intermediate femora at the tip, anterior tibiae, intermediate tibiae (except a line within), posterior tibiae at the base and first joint of anterior and intermediate tarsi, yellowish (in the type the color is reddish from being over-cyanided); tegulae, stigma and nervures of wings brownish. Clypeus and inner orbits silvery pubescent.

♀. Unknown.

Type, a male collected at Knox, North Dakota, July 13, 1911, on *Stum cicutaefolium*, (O. A. Stevens).

Related to *opwana* Rohwer, by the absence of the spurs on the intermediate tibiae, but is quite distinct from that species.

In Fox's table it runs out at *hilaris*, but differs from any of the species in that group by the lack of a spur on the intermediate tibiae, antennal characters, the sculpture of the propodeum and other minor characters.

Crabro (Protothyreopus) crassiceps sp. nov.

♀. Length 13.5 mm. Anterior margin of clypeus slightly rounded out, not dentate laterally; head rather finely and evenly punctured throughout; line from anterior ocellus rather indistinct; ocelli in a low triangle, the space between the posterior pair slightly less than that between one of them and the nearest eye margin; facial basin smooth; first joint of the flagellum about equal in length to the following two joints united; clypeus, frontal orbits widely and posterior orbits densely silvery pubescent; remainder of head with short, sparse pubescence, except on the vertex before the ocelli where the pubescence is rather long (about as long as the first flagellar joint); pronotum strongly ridged anteriorly, very slightly dentate laterally, strongly emarginate medially; anterior face of pronotum longitudinally striated; mesoscutum and mesoscutellum with moderate, close, more or less confluent punctures; episterna strongly, transversely striated above, striato-punctate below; mesosternum with large, sparse punctures; propodeum obliquely striate above, channelled medially, the channel rather narrow; sides of propodeum very finely transversely striate; posterior face of propodeum more strongly, transversely striate than the sides, with a rather deep channel medially; entire thorax with sparse, fairly long, silvery pubescence; dorsal abdominal segments finely, closely punctured, the punctures on the first segment slightly larger than those on the following segments; pygidium flat, triangular, with a lateral fringe of stiff hairs; second and third ventral segments with finely, closely punctured areas laterally; the second ventral segment sparsely punctate throughout; sternites two to five with an apical, transverse line of rather large punctures; sternite six strongly punctured; all the femora more or less triangular, the anterior ones strongly so. Color black; mandibles (except apices), scape entirely, pedicellum and first joint of flagellum beneath, pronotum above except the emargination, posterior lobes of pronotum, tegulae anteriorly, large rectangular spot on the episterna just behind the posterior lobes of pronotum, two small lateral spots in front of the mesoscutellum, a narrow band on the mesoscutellum anteriorly, interrupted medially, metanotum, two lateral, irregularly triangular spots on the lower portion of the posterior face of the propodeum, two large spots on first abdominal tergite almost touching medially, broad bands, slightly narrowed medially on abdominal tergites two to five, that on tergite five the widest, spot on the posterior coxae beneath, all the femora above at the apex and extending about two-thirds of the way to the base, all the tibiae entirely, and the basal two or three joints of all the tarsi, yellow; posterior portion of tegulae testaceous; apical joints of tarsi blackish; wings slightly yellowish; nervures and stigma yellowish; first recurrent nervure received near the apex of the first submarginal cell.

♂. Unknown.

Type, a female taken at Ute Creek, Colorado, August 7, 1907, (R. W. Dawson).

Closely related to *megacephalus* Rohwer, but differs in the sculpture of the propodeum, puncturation of the ventral segments and other minor characters. In having the propodeum marked with yellow it is similar to *bigeminus* Patton, but differs in the markings on the abdomen and in the coloration of the femora.

Crabro (*Xestocrabro*) *proletarius* sp. nov.

♂. Length 5.5 mm. Clypeus truncate medially, with a small lateral tooth; facial basin smooth, distinctly margined above; head with very fine, shallow, well separated punctures; line running from anterior ocellus faint but distinct; ocelli in a low triangle, the distance between the two posterior ones slightly less than the distance between them and the nearest eye margins; first joint of flagellum about one-fourth longer than the second, the first four joints more or less emarginate basally, beneath, and somewhat produced at the tip; clypeus and lower orbits covered with dense silvery pubescence, remainder of head with very fine, sparse, silvery pubescence, pronotum margined anteriorly and posteriorly forming a transverse furrow, broken medially by a shallow emargination; not at all dentate laterally; mesoscutum closely, confluent punctate giving it the appearance of being finely, transversely striato-punctate anteriorly and finely, longitudinally striato-punctate posteriorly; mesoscutellum longitudinally striato-punctate; episterna transversely striate above, transversely striato-punctate below; mesosternum with fine, well separated punctures; propodeum above shallowly reticulate, with a shallow, slightly foveolate channel medially; a row of rather large, shallow foveae between the upper surface and the posterior face of the propodeum, the latter rather strongly, transversely striate and channelled medially; sides of propodeum moderately, transversely striate; abdomen apparently impunctate, the first tergite more or less microscopically punctate; fore femora produced beneath at the base; fore tarsi very much flattened; first joint of intermediate tarsi not angulate, very slightly longer than the following three joints united. Color black; small spot on the mandibles, scape (except at the base in front and extending upward on the inner side, black), band on the pronotum above, widely interrupted medially, posterior lobes of the pronotum, metanotum, lateral spots basally on tergites two to five (those on tergite two the largest), basal band on tergite six somewhat narrowed medially, fore femora at the tip and a stripe in front and on outer side, intermediate femora on the apical fourth, front and intermediate tibiae except a spot within, hind tibiae except a spot within at the apex, and first two joints of anterior tarsi, all yellow; anterior femora behind, and spot on anterior tibiae within, reddish; wings subhyaline, veins and stigma dark testaceous.

♀. Unknown.

Type, a male collected at Lisbon, North Dakota, June 5, 1913, on *Zizia aurea*, (O. A. Stevens).

Related to *drymocallidis* Rohwer in the structure of the front femora and other characters.

Crabro (*Solenius*) *planaris* sp. nov.

♂. Length 6 mm. Anterior margin of clypeus produced into a narrow, truncated process, distinctly ridged medially; facial basin smooth, shining; head with very strong, more or less confluent punctures, those on the cheeks more shallow, smaller and sparser; line from anterior ocellus to facial basin very faint; ocelli in a rather low triangle, the distance between the posterior pair about equal to the distance between one of them and the nearest eye margin; first joint of flagellum slightly shorter than the second; clypeus and lower orbits covered with dense, silvery pubescence; remainder of head covered with sparse, silvery pubescence, pronotum closely punctured, the punctures smaller than those on the head, margined anteriorly and distinctly dentate laterally; mesoscutum with large, deep, more or less confluent punctures; mesoscutellum sculptured similarly; episterna slightly striatopunctate above, with fairly large, well separated punctures throughout; upper and posterior faces of the propodeum strongly rugoso-reticulate throughout, the sides of the propodeum strongly, transversely striate; first abdominal tergite basally much flattened, the flattened area bounded posteriorly by an obtuse elevation; second abdominal tergite with a strong, transverse depression basally; third abdominal tergite slightly depressed basally; abdominal tergites with distinct, well separated punctures; second and third abdominal sternites with a strongly impressed apical line; fore femora with a sharp tooth near the base beneath; fore tarsi slightly flattened, intermediate tibiae not spined at the tip. Color black; scape (except a line behind), two very small, transverse spots on the anterior face of the pronotum, posterior lobes of the pronotum, narrow, medial, transverse bands widely interrupted medially on tergites one to four, narrow sinuate bands on tergites five and six, anterior femora at the tips and below, intermediate femora at the tips, anterior tibiae entirely, intermediate and posterior tibiae except a line within, and all the tarsi, yellow; flagellum above blackish, beneath testaceous; tegulae testaceous; wings subhyaline, veins and stigma testaceous.

♀. Unknown.

Type, a male collected at Monroe Canyon, Sioux County, Nebraska, August 17, 1908, (R. W. Dawson).

Distinct from the other species of *Solenius* in the flattened area on the first abdominal tergite, the transverse, basal depressions on tergites two and three, and the impressed, apical lines on sternites two and three.

Lindenius *buccadentis* sp. nov.

1908. *Lindenius armaticeps* H. S. Smith, Univ. Nebr. Studies, viii, p. 404, (nec Fox).

♀. Length 4.5 to 5 mm. Clypeus truncate anteriorly with a lateral tooth; facial basin smooth; line between fore ocellus and facial basin distinct; ocelli in a low triangle, the distance between the two posterior ocelli very much

greater than the distance between one of them and the nearest eye margin; head very shining, polished, with sparse, distinct punctures; gula with a short, blunt tooth; first and second joints of the flagellum about equal in length; clypeus, inner orbits, and cheeks with prominent, silvery pubescence, that on the clypeus and orbits denser; pronotum prominently, transversely ridged anteriorly, not toothed laterally, distinctly lower than the mesoscutum; mesoscutum and mesoscutellum shining, polished, with sparse, distinct punctures; episterna more finely and closely punctured than the mesoscutum, the foveolate furrow slightly curved, and a prominent fovea above, below the tegulae; the two convexities of the enclosed space on upper surface of propodeum smooth, shining; propodeum channelled medially, the channel connecting with a transverse, foveolate furrow at the base of the upper surface; posterior face of propodeum shining, indistinctly sculptured near the sides; sides of propodeum smooth and shining; episterna and mesosternum with prominent silvery pubescence; abdomen sparsely, microscopically punctate, covered with short, fine, not dense silvery hairs; the apical margins of the tergites narrowly testaceous; pygidium flat, acute at the apex, about one and one-third times as long as broad, with large, close distinct punctures. Color black; mandibles except the reddish apical half, scape except a blotch behind, flagellum beneath at base, pronotum above, posterior lobes of pronotum, anterior femora at the tips, anterior and intermediate tibiae except a blotch within, posterior tibiae on the basal third, all the tarsi except the apical joint, very pale lemon yellow; flagellum testaceous beneath, wings hyaline, iridescent, veins and stigma brownish.

♂. Very similar to the female. The tooth on the gula is somewhat stronger and the flagellum and fore femora are entirely black.

Type, a female collected at Omaha, Nebraska, July 9, 1914, on *Chamacrista fasciculata*, (L. T. Williams); allotype, a male collected at Omaha, Nebraska, July 25, 1914, (L. T. Williams); five female and one male paratypes collected at Omaha, West Point and Glen, Nebraska.

The female is very similar to *errans* (Fox), but differs by having the gula toothed, the mesoscutellum black, and in the sparser puncturation of the head and thorax. The male in having the gula toothed seems related to *armaticeps* (Fox), but is distinct in having the clypeus and scape posteriorly black, the posterior tibiae yellow at the base only, and the convexities of the enclosed space of propodeum smooth and shining.

Family OXYBELIDAE

Notoglossa minor sp. nov.

♂. Length 2.75 mm. Clypeus five-toothed; head very strongly punctured throughout; occiput finely striato-punctate (i. e. the punctures strong as on the rest of the head, but the striae very fine); distance between the two posterior ocelli about twice the distance between one of them and the nearest eye-

margin; thorax strongly punctured like the head; pronotum strongly margined anteriorly; episterna finely striato-punctate; mesoscutellum and metanotum with a strong, median, longitudinal carina; squamae with a lateral point which does not exceed the tip; metanotal spine short, about as long as the scape, narrowed at the base, broad at the tip, deeply and roundly emarginate; upper surface of propodeum obliquely striate; posterior face, except the small, triangular median area, transversely striate; sides of the propodeum very finely, shallowly and closely punctate, appearing somewhat granulate; abdomen strongly punctured throughout, without any evident spines on the sides. Color black; mandibles except the reddish tips, minute lateral spots on first tergite, anterior and intermediate tibiae and tarsi, stripe outwardly on the posterior tibiae, and hind tarsi, all yellowish; flagellum except the basal three or four joints, and the tegulae, testaceous; wings hyaline, stigma and nervures brownish; front, clypeus and apical margins of abdominal segments with conspicuous silvery pubescence, remainder of body with thin, sparse, silvery pubescence.

♀. Unknown.

Type, a male collected at Omaha, Nebraska, July 16, 1914, on *Chamaecrista fasciculata*, (L. T. Williams).

Related to *emarginata*, but differs from that species in the much smaller size, the striato-punctate episterna, the peculiarly sculptured sides of the propodeum and in the shape of the metanotal spine.

Notoglossa striatifrons sp. nov.

♂. Length 7.5 to 9 mm. Clypeus shining, three-toothed but not strongly so; front strongly, longitudinally striato-punctate; vertex and occiput coarsely, transversely striato-punctate; space between the two posterior ocelli about two and one-half times the distance between one of them and the nearest eye-margin; pronotum strongly margined anteriorly; mesoscutum strongly and coarsely punctate; episterna coarsely reticulate; mesoscutellum strongly punctured; mesoscutellum and metanotum with a distinct, longitudinal, median carina; squamae with a very strong lateral point which does not reach to the tip; metanotal spine about as long as the mesoscutellum, broadened at the tip and roundly emarginate; upper surface of propodeum obliquely rugose, reticulate beneath the spine; posterior face of propodeum transversely rugose except the median area, which is triangular, smooth and shining within; sides of propodeum finely, transversely rugose; abdomen distinctly punctate, the punctures on the first segment stronger than those on the following segments; hind tibiae with three rows of stout, sharp spines on the outer face, the space between the rows strongly rugose. Color black; spot on the squamae, narrow apical bands on tergites one to four narrowly interrupted medially, apical bands on tergites five and six, line on anterior tibiae in front, spot at base of intermediate and posterior tibiae, all very light yellowish; anterior tibiae and tarsi, and flagellum beneath at the apex reddish brown; tegulae, nervures and stigma of wings testaceous; front and clypeus with conspicuous, silvery pubescence.

♀. Unknown.

Type, a male collected at Newcastle, Wyoming, in June, (M. Cary). One paratype collected at the same time and place.

This species is very distinct in its striato-punctate front, vertex and occiput, the strongly reticulate episterna and the markings of the abdomen.

Notoglossa incisura sp. nov.

♂. Length 3.75 to 5 mm. Clypeus five-toothed; head strongly punctate throughout; distance between the two posterior ocelli about three times the distance between one of them and the nearest eye-margin; pronotum margined anteriorly; mesoscutum, mesoscutellum and episterna strongly punctate; posterior portion of mesoscutum, mesoscutellum and metanotum with a strong, longitudinal carina; squamae with a lateral point reaching beyond the tip; metanotal spine about as long as the mesoscutellum, sides almost parallel, not narrowed at the base; spine about twice as long as wide, deeply, widely, and roundly emarginate; upper surface of propodeum obliquely striate, reticulate beneath the spine; posterior face of propodeum except median area which is triangular and finely rugose within, transversely striato-punctate; sides of propodeum transversely striato-punctate; abdomen strongly punctate. Color black; mandibles except the tips, small lateral spots on abdominal tergites one and two, front and intermediate tibiae in front, posterior tibiae at the base, anterior tarsi, intermediate and posterior tarsi basally, all yellowish; flagellum beneath at the tip, and tegulae testaceous; apical half of post-scutellar spine concolorous with the squamae; wings hyaline, nervures and stigma testaceous; front and clypeus with conspicuous, silvery pubescence.

♀. Unknown.

Type, a male collected at Harrison, Nebraska, August 9, 1908, (R. W. Dawson). Eight male paratypes collected at Harrison and Monroe Canyon, Sioux County, Nebraska, on August 4 and 9; visits flowers of *Helianthus* sp.

This species is quite distinct in the form of the squamae, the metanotal spine and the sculpture of the propodeum as given in the description above.

Notoglossa decorosa sp. nov.

♀. Length 4.5 mm. Anterior margin of the clypeus truncate, with a distinct lateral tooth; head strongly punctured throughout, appearing somewhat striato-punctate on the occiput; distance between the posterior ocelli about three times the distance between one of them and the nearest eye-margin; pronotum margined anteriorly, mesoscutum, mesoscutellum and episterna strongly punctured; posterior portion of the mesoscutum, the mesoscutellum and the metanotum with a strong, longitudinal, median carina; squamae large, the lateral points long, about half the length of the squamae and much exceeding the tips of the latter; metanotal spine about as long as the mesoscutellum, rather narrow, the dorsal surface strongly fluted, widely and roundly emarginate at the tip; upper surface of propodeum obliquely striate,

reticulate beneath the spine; posterior face of propodeum finely rugoso-punctate except the triangular median area which is rugose within; sides of propodeum finely, transversely striato-punctate; abdomen rather strongly punctate throughout, the longitudinal, median furrow of the first dorsal segment very distinct. Color, black; mandibles except the tips, pronotum entirely above and extending to the posterior lobes, the posterior lobes of the pronotum, two spots on anterior face of the pronotum, spot at the base of each squama, wide apical band on the first abdominal tergite widely interrupted medially, lateral spots on apical margins of tergites two to four (the spots narrow and transverse), apical third of the anterior femora outwardly, anterior tibiae and tarsi, tips of the intermediate femora, line on the intermediate tibiae in front, and base of posterior tarsi, all deep yellow; flagellum beneath and at the tips, testaceous; tegulae and apical abdominal segment red; clypeus and front without conspicuous silvery pubescence, the whole body covered with thin, short silvery pubescence; wings hyaline, nervures and stigma testaceous.

♂. Unknown.

Type, a female collected at Omaha, Nebraska, July 9, 1914, on *Chamaecrista fasciculata*, (L. T. Williams).

This species may be recognized at once by the deep yellow pronotum and the wide, interrupted, apical yellow band on the first abdominal tergite.

***Oxybelus argentarius* sp. nov.**

♀. Length 6.5 to 7 mm. Clypeus shining, impunctate on anterior margin, the lateral angles prominent, and with a very obtuse angulation medially; head closely, moderately punctate throughout, covered with silvery pubescence, which is densest on the clypeus, front and cheeks; distance between the posterior ocelli a little more than twice the distance between one of them and the nearest eye-margin; first joint of flagellum slightly longer than the second; pronotum distinctly carinate anteriorly, the carina forming a small sharp tooth at the sides; mesoscutum and mesoseutellum closely, moderately punctate; mesoseutellum and metanotum indistinctly, longitudinally carinate medially; episterna sparsely, moderately punctate; squamae apparently joined at the base (this is caused by the metanotum being yellow), lateral points of the squamae rather long, slightly curved inwardly; metanotal spine about as long as the mesoseutellum, narrow, channelled on the basal two-thirds, slightly widened apically, squarely truncate at the tip; upper surface of propodeum with a few weak, oblique striae, granulate between the striae; beneath the spine reticulate and granulate; median area of posterior face of propodeum triangular, rather small, glabrous within; sides of propodeum very finely rugoso-punctate; thorax with thin, silvery pubescence, denser and very conspicuous on the mesoscutum, very dense on the upper surface of the propodeum laterally; abdomen with fairly small, well separated punctures; first four abdominal tergites with a narrow, silvery fascia apically; two apical tergites covered with blackish pubescence; pygidium triangular, shallowly emarginate

at the apex. Color black; two small, lateral spots on the pronotum, posterior lobes of the pronotum, two spots on the mesoscutellum, metanotum, inner margins of the squamae, two small, lateral spots on the apical portion of the first abdominal tergite, anterior tibiae within, apex of intermediate and posterior femora, line on the basal portion of the intermediate and hind tibiae outwardly, and apical joints of anterior and intermediate tarsi, all pale yellowish; anterior tibiae within reddish; flagellum bright fulvous except the basal two or three joints; mandibles piecous; eyes (dry) reddish; abdomen entirely ferruginous except the first abdominal tergite; tegulae testaceous; wings hyaline, nervures and stigma testaceous.

♂. Unknown.

Type, a female collected at Harrison, Nebraska, August 9, 1908, (C. H. Gable). One paratype, a female collected at Glen, Nebraska, August 13, 1906, on *Cleome serrulata*, (M. H. Swenk).

Related to *glenensis* H. S. Smith, but differs by having the abdomen almost entirely ferruginous, two yellow spots on the mesoscutellum and other minor characters.

***Oxybelus umbrosus* sp. nov.**

♂. Length 4 to 4.5 mm. Clypeus tridentate; mandibles with a tooth within; head strongly punctured, the punctures finer on the front; distance between the posterior ocelli about three times the distance between one of them and the nearest eye-margin; clypeus, front and cheeks covered with silvery pubescence; pronotum carinate anteriorly; mesoscutum and mesoscutellum strongly punctured; episterna strongly punctured throughout; mesoscutellum and metanotum with a distinct, longitudinal, median carina; squamae with the lateral points strongly curved inwardly; metanotal spine about as long as the mesoscutellum, narrow, channelled, slightly broadened on the apical third, and shallowly, angulately emarginate at the tip; upper surface of propodeum obliquely striate; reticulate immediately beneath the spine; median area of posterior face wedge-shaped, glabrous within; remainder of posterior surface finely striato-punctate; sides of propodeum distinctly, transversely striate; abdomen with moderate, well separated punctures. Color, black; mandibles except the tips, minute lateral spots on the pronotum, posterior lobes of the pronotum, line on anterior and intermediate tibiae outwardly, spot at base of hind tibiae, all pale yellowish; flagellum fulvous, darker above; squamae and metanotal spine except basal fourth, pale, translucent; first abdominal segment, all the remaining abdominal tergites (except the median half which is black), and abdominal sternites, all ferruginous; all the femora and tibiae (except as noted above) dark reddish; tegulae testaceous; wings hyaline, nervures and stigma testaceous.

♀. Unknown.

Type, a male collected at Harrison, Nebraska, August 4, 1908, on *Helianthus* sp., (C. H. Gable). One paratype, a male collected at Harrison, Nebraska, August 9, 1908, (R. W. Dawson).

A very distinct and easily recognizable species. The abdomen is not at all marked with yellowish, and is peculiarly colored in that the median portion of the tergites is black and the sides of all the tergites are ferruginous.

***Oxybelus fastigatus* sp. nov.**

♂. Length 6 to 7 mm. Clypeus tridentate; head strongly, closely punctate; distance between the two posterior ocelli about two and one-half times the distance between one of them and the nearest eye-margin; first joint of flagellum slightly longer than the second; pronotum carinate anteriorly; mesoscutum and mesoscutellum very strongly, closely punctate; episterna punctured likewise; mesoscutellum and metanotum with a distinct, longitudinal carina; lateral points of squamae short, slightly curved inwardly; metanotal spine a little shorter than the length of the mesoscutellum, about half as wide as long, shallowly channelled, slightly dilated towards the apex, slightly emarginate at the tip; propodeum above obliquely striate, punctate towards the lateral margins; reticulate below the spine; median area of posterior face small, triangular, slightly rugose and shining within; remainder of posterior face closely punctate with a few striae near the margins; sides of propodeum distinctly, transversely striato-punctate; abdomen strongly punctate, apical portions of tergites narrowly, silvery fasciate; tergites four to six with a well developed spine on each side; clypeus and front with rather dense silvery pubescence; remainder of body with thin, silvery pubescence. Color, black; a linear, apical spot on each side of abdominal tergites one to four (those on the fourth tergite very narrow and inconspicuous), pale yellowish; flagellum fulvous, slightly darker above; tegulae, abdominal segments five to seven, anterior tibiae and tarsi, all ferruginous; squamae pale, translucent; wings hyaline, nervures and stigma testaceous.

♀. Length 7 mm. Differs from the male as follows: metanotal spine about two-thirds the length of the mesoscutellum, apical portion translucent; median area of posterior face of propodeum a little larger and finely, transversely rugose; two minute spots on the pronotum, posterior lobes of the pronotum, small spot at the tip of the intermediate femora, small spot at the base of the intermediate and hind tibiae, all pale yellowish; the abdominal spots are more extended and almost united into bands; abdominal segments five to six ferruginous.

Type, a male collected at Harrison, Nebraska, August 4, 1908, (C. H. Gable). Allotype, a female collected at Ogallala, Nebraska, June 24, 1913, (R. W. Dawson). Four male paratypes taken at Harrison, Nebraska, on August 4, 1908, (C. H. Gable), and August 9, 1908, (R. W. Dawson). Visits flowers of *Helianthus* sp.

This species may be distinguished by the ferruginous apical abdominal segments in both the male and female, by the strongly

punctured abdomen, the sculpture of the propodeum and the form of the metanotal spine.

***Oxybelus major* sp. nov.**

♂. Length 12.5 mm. Clypeus strongly tridentate; head with very strong, well separated punctures, those on the front much finer than those on the vertex; distance between the two posterior ocelli about twice the distance between one of them and the nearest eye-margin; first joint of the flagellum distinctly longer than the second; clypeus and front with long, rather thick, silvery pubescence; remainder of head with short, sparse, silvery pubescence; pronotum not carinate its entire width, striato-punctate laterally; posterior lobes of the pronotum carinate anteriorly, appearing dentate; mesoscutum with large deep punctures, a longitudinal, median line anteriorly, and a distinct, linear fovea laterally near the tegulae; mesoscutellum and metanotum punctured like the mesoscutum, with a distinct, longitudinal, median carina; episterna strongly punctate above, the punctures distinctly smaller toward the posterior margin; episterna below coarsely, longitudinally rugoso-punctate; episterna on the lower anterior margin and at the point of juncture with the mesosternum, produced so as to form a very prominent ridge; very strongly ridged before the intermediate coxae; lateral points of squamae rather short, rounded, not sharp; spine narrow, deeply channelled (tip of spine broken off, but evidently acute); upper surface of propodeum coarsely striato-punctate, the striae becoming finer and closer towards the lateral margins; median area of posterior face small, almond-shaped, deep, rugose within; remainder of posterior face coarsely, transversely striato-punctate; sides of propodeum strongly, transversely striate; abdomen with coarse, well separated punctures, without any indication of lateral spines; first abdominal tergite with a longitudinal, median depression; last tergite widely emarginate apically. Color, black; small lateral spots on pronotum, posterior lobes of pronotum, narrow line from postero-lateral angle of mesoscutellum to base of anterior wings, line from metanotum to base of posterior wings, bands on the apical portion of abdominal tergites one to four, wide at the sides, dilated and widely interrupted medially, large spot on anterior and intermediate femora at the tips outwardly, line on all the tibiae outwardly, not reaching to the tips, all very pale yellowish; flagellum black; anterior tibiae dark ferruginous within; tegulae testaceous; wings tinged with yellowish, nervures and stigma light brown.

♀. Unknown.

Type, a male collected at South Bend, Nebraska, July 14, 1915, on *Melilotus alba*, (E. M. Partridge).

Related to *albosignatus*, but differs from that species in the much larger size, the structure of the lower half of the episterna, the sculpture of the posterior face of the propodeum and the yellowish tinge to the wings.